

STATEMENT OF BASIS

as required by LAC 33:IX.3109 for LPDES facilities where a fact sheet is not required under LAC 33:IX.3311, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0084557; AI 18394; PER20070001 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The permitting authority for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

- I. **THE APPLICANT IS:** Baton Rouge Recreation & Park Commission
BREC Baton Rouge Zoo
6201 Florida Blvd
Baton Rouge, LA 70806
- II. **PREPARED BY:** Angela Marse
- DATE PREPARED:** November 26, 2007
- III. **PERMIT ACTION:** LPDES permit LA0084557, AI 18394; PER20070001
- LPDES application received: June 29, 2007
- LPDES permit issued: July 1, 2002
LPDES permit expired: June 30, 2007

IV. FACILITY INFORMATION:

- A. The application is for the discharge of treated animal wastewater including washdown water, pool water, domestic wastewater, and walkway cleaning from a treatment works serving the Baton Rouge Zoo.
- B. The permit application does not indicate the receipt of industrial wastewater.
- C. The facility is located on Highway 19 and Thomas Road in Baton Rouge, East Baton Rouge Parish.
- D. The treatment facility consists of an equalization basin followed by a rock-reed filter. Disinfection is by ultraviolet light.

E. Outfall 001

Discharge Location: Latitude 30° 33' 47" North
Longitude 91° 9' 30" West

Description: treated animal wastewater including washdown water, pool water, domestic wastewater, and walkway cleaning

Expected flow: 0.225 MGD

Type of Flow Measurement which the facility is currently using: Open channel flow monitor

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V. RECEIVING WATERS:

The discharge is into Cypress Bayou, thence into the Comite River in segment 040103 of the Lake Ponchartrain Basin. This segment is listed on the 303(d) list of impaired waterbodies. The designated uses and degree of support for Segment 040103 of the Lake Ponchartrain Basin are as indicated in the table below^{1/}:

Overall Degree of Support for Segment 040103	Degree of Support of Each Use						
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Partial	Not Supported	Not Supported	Full	N/A	N/A	N/A	N/A

^{1/}The designated uses and degree of support for Segment 040103 of the Lake Ponchartrain Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2004 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

Section 303 (d) of the Clean Water Act as amended by the Water Quality Act of 1987, and EPA's regulations at 40 CFR 130 require that each state identify those waters within its boundaries not meeting water quality standards. The Clean Water Act further requires states to implement plans to address impairments. LDEQ is developing Total Maximum Daily Loadings Studies (TMDLs) to address impaired waterbodies. Segment 040103 of the Lake Ponchartrain Basin is on the 2004 Integrated 303(d) List of Impaired Waterbodies. The suspected cause of impairment is pathogen indicators. To date no TMDLs have been completed for this waterbody.

To protect against potential receiving water impairments due to pathogens, fecal coliform limits have been established in the permit. Monitoring for fecal coliform is the best indicator for the potential presence of pathogenic organisms in wastewater.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 040103 of the Lake Ponchartrain Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered species or candidate species or their critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

VII. HISTORIC SITES:

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the 'Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits' no consultation with the Louisiana State Historic Preservation Officer is required.

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VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mrs. Angela Marse
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:

Final Effluent Limits:

OUTFALL 001

The permit is for the discharge of treated animal wastewater including washdown water, pool water, domestic wastewater, and walkway cleaning. The initial permit for BREC Zoo was issued in 1990. Limits were based on those established for sanitary dischargers into Cypress Bayou at the time. Ammonia limits were added to the permit in 2002 based on the sanitary policy for East Baton Rouge. No TMDLs or other water quality studies have been conducted since the issuance of the previous permit in 2002. Therefore, effluent limitations will remain the same as the previous permit. Should TMDLs for Segment 040103 of the Lake Pontchartrain Basin require more stringent effluent limitations before the expiration of this permit, a reopener clause has been included in the permit.

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Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs/day)	Monthly Avg.	Weekly Avg.	Basis
CBOD ₅	19	10 mg/l	15 mg/l	Statewide Sanitary Effluent Limitations Policy (SSELP) for facilities of this type and size. Limits are also based on the previous LPDES permit issued 7/1/2002.
TSS	28	15 mg/l	23 mg/l	Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgement for the type of treatment technology utilized at this facility. Limits are also based on the previous LPDES permit issued 7/1/2002.
Ammonia nitrogen	9	5 mg/l	10 mg/l	Limits based on the previous LPDES permit issued 7/1/2002 which included ammonia limits based on the sanitary policy for East Baton Rouge.

*Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD₅ and TSS in terms of concentration.

Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.i, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgement in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

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3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

X. PREVIOUS PERMITS:

LPDES Permit No. LA0084557:

Issued:

July 1, 2002

Expired:

June 30, 2007

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	Continuous	Recorder
CBOD ₅	10 mg/l	15 mg/l	2/month	Grab
TSS	15 mg/l	23 mg/l	2/month	Grab
Ammonia-Nitrogen	5 mg/l	10 mg/l	2/month	Grab
Fecal Coliform Colonies	200	400	2/month	Grab
pH	---	---	2/month	Grab

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

A review of the files indicates the following most recent inspection for this facility.

Date: September 5, 2007

Inspector: Robert Gillett

Findings and/or Violations:

1. The facility is in the process of repairing it's sewage treatment plant and they are sending all wastewater to the City Parish Sewerage System during the repairs.
2. There was no discharge at the time of the inspection.

B) Compliance and/or Administrative Orders

A review of the files indicates no recent enforcement actions administered against this facility.

C) DMR Review

A review of the discharge monitoring reports for the period beginning **October, 2005** through **October, 2007** has revealed the following violations:

Month	Parameter	DMR Reported Value	Permit Limit
September, 2005	Fecal coliform	2030 daily average	200
		4000 daily max	400
October, 2005	Fecal coliform	1450 daily average	200
		2000 daily max	400
June, 2006	Fecal coliform	390 daily average	200
		600 daily max	400
May, 2007	Fecal coliform	345 daily average	200
June, 2007	Fecal coliform	375 daily average	200
		420 daily max	400

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XII. ADDITIONAL INFORMATION:**PERMIT REOPENER CLAUSE**

In accordance with LAC 33:IX.2361.C.3, this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

- a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b) Controls any pollutant not limited in the permit; or
- c) Requires reassessment due to change in 303(d) status of waterbody; or
- d) Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body. The Department will be conducting TMDL studies in the Lake Pontchartrain Basin. Completion of the studies is scheduled for 2012. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 0.225 MGD.

Effluent loadings are calculated using the following example:

CBOD: $8.34 \text{ lb/gal} \times 0.225 \text{ MGD} \times 10 \text{ mg/l} = 19 \text{ lb/day}$

At present, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** are standard for facilities of flows between 0.1 and 0.5 MGD.

XIII. TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

XIV. REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 1998.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2004.

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Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Baton Rouge Recreation & Park Commission, BREC Baton Rouge Zoo, June 29, 2007.